

Protocol for the Referral and Placement of Permanent Vascular Access

Background

In 1997, the National Kidney Foundation published the Dialysis Outcomes Quality Initiative (NKF-DOQI) Clinical Practice Guidelines for Vascular Access. The DOQI Guidelines were primarily developed to improve patient outcomes and survival by providing recommendations for optimal clinical practices. The DOQI Guidelines include the recommended order of preference for the selection of permanent vascular access. The recommended order of preference is 1) a radial-cephalic AV fistula, 2) a brachial-cephalic AV fistula, 3) an arteriovenous graft, and 4) a transposed brachial-basilic vein fistula. For temporary access of less than 3 weeks' duration, a tunneled cuffed venous catheter is the access of choice. However, less than 10% of chronic maintenance hemodialysis patients should be maintained on catheters as their permanent chronic dialysis access (i.e. > 90 days).

Catheters are not recommended as permanent chronic dialysis access because of the disadvantages associated with catheters relative to other access types. Cuffed catheters are associated with lower blood flow rates compared to fistulas and grafts, and often require increased treatment times to prevent inadequate dialysis. Inadequate dialysis is associated with increased morbidity and mortality. Systemic and local infections occur more often with cuffed catheters than with fistulas and grafts. Chronic catheter usage is associated with a risk of central venous stenosis that can prevent the establishment of a permanent access for hemodialysis.

Purpose

This protocol provides a uniform approach for referring hemodialysis patients for permanent, surgically implanted access placement.

New Hemodialysis Patient Procedure

- A. Patient is admitted to dialysis facility with a catheter as sole vascular access.
 1. Nephrologist to assess patient for appropriateness of catheter. A catheter MAY be appropriate if:
 - a) A transplant procedure has been scheduled
 - b) The patient is awaiting peritoneal dialysis training
 - c) All sites for access have been depleted
 - d) Recovery of renal function is anticipated
 2. If catheter is inappropriate, initiate referral to vascular access surgeon
- B. Follow-up with patient to assure compliance with appointment
 1. If patient follows through on surgical referral, document results of the appointment

- a) Patient is scheduled for surgery
 - b) Educate the patient on the importance of protecting the arm to be used for access (e.g. no blood pressures, no blood draws)
 - 2. Patient did not go to appointment
 - a) Assist with re-scheduling of appointment, taking into consideration reasons why the patient may have missed the appointment
 - b) Educate the patient on the importance of permanent vascular access
 - 3. Patient refuses referral
 - a) Educate patient on the importance of permanent vascular access
 - b) Schedule patient/family conference with nephrologist to discuss access options
 - c) Address access status with patient as part of regular care conferences
 - 4. Surgeon determined patient is not a candidate for access surgery
 - a) Assess reason and resolve if possible
 - b) Re-evaluate in 30 days with nephrologist and vascular access surgeon
- C. Follow-up to assure that access surgery is completed
- 1. Access has been placed
 - a) Obtain surgical information from the surgeon including type of access placed and an “access map”
 - b) Monitor new access
 - 1. Check for infection, patency and the development of venous hypertension (e.g. edema in access limb)
 - 2. Allow graft to heal for one month and fistula for 3 months before insertion of needles
 - 2. Access has not been placed
 - a) Determine reason and resolve if possible
 - b) Contact surgeon to reschedule surgery

Algorithm for Vascular Access Placment in New Dialysis Patients

Patient Name: _____
DOFD: _____

